

**Appendix A. PubMed search**

Search	Results
<p>(<i>"child"</i>[Text Word] OR <i>"children"</i>[Text Word] OR <i>"infant"</i>[Text Word] OR <i>"Preschooler"</i>[Text Word] OR <i>"baby"</i>[Text Word] OR <i>"Babies"</i>[Text Word] OR <i>"child"</i>[MeSH Terms] OR <i>"infant"</i>[MeSH Terms] OR <i>"child, preschool"</i>[MeSH Terms] OR <i>"kids"</i>[Text Word] OR <i>"kid"</i>[Text Word] OR <i>"children"</i>[Title/Abstract] OR <i>"adolescent"</i>[MeSH Terms] OR <i>"teenager"</i>[Text Word] OR <i>"adolescent"</i>[Text Word] OR <i>"teen"</i>[Text Word]) AND (<i>"probiotics"</i>[MeSH Terms] OR <i>"probiot*"</i>[Text Word] OR <i>"lactobacillus"</i>[MeSH Terms] OR <i>"lactobacill*"</i>[Text Word] OR <i>"bifidobacterium"</i>[MeSH Terms] OR (<i>"bifido*"</i>[Text Word] OR <i>"bifidu*"</i>[Text Word]) OR <i>"lactococcus"</i>[MeSH Terms] OR <i>"lactococc*"</i>[Text Word] OR <i>"saccharomyces"</i>[MeSH Terms] OR <i>"saccharomyc*"</i>[Text Word] OR <i>"streptococcus thermophilus"</i>[MeSH Terms] OR <i>"streptococcus thermophilus"</i>[Text Word] OR <i>"bacillus subtilis"</i>[MeSH Terms] OR <i>"bacillus subtilis"</i>[Text Word] OR <i>"bacill"</i>[Text Word] OR <i>"enterococcus"</i>[MeSH Terms] OR <i>"enterococcus faec*"</i>[Text Word] OR <i>"Active dry probiotics"</i>[Text Word] OR <i>"Probiotics powder"</i>[Text Word] OR <i>"Spray drying"</i>[Text Word]) AND (<i>"Respiratory Tract Infections"</i>[MeSH Terms] OR <i>"respiratory tract infection"</i>[Text Word] OR <i>"RTI"</i>[Text Word] OR <i>"upper respiratory infection"</i>[Text Word] OR <i>"urti"</i>[Text Word] OR <i>"lower respiratory infection"</i>[Text Word] OR <i>"respiratory infection"</i>[Text Word] OR <i>"Respiratory Tract Infections"</i>[Text Word] OR <i>"bronchitis"</i>[MeSH Terms] OR <i>"bronchit*"</i>[Text Word] OR <i>"pneumonia"</i>[MeSH Terms] OR <i>"pneumonia"</i>[Text Word] OR <i>"sinusitis"</i>[MeSH Terms] OR <i>"sinusit*"</i>[Text Word] OR <i>"pharyngitis"</i>[MeSH Terms] OR <i>"pharyngit*"</i>[Text Word] OR <i>"laryngitis"</i>[MeSH Terms] OR <i>"laryngit*"</i>[Text Word] OR <i>"common cold"</i>[MeSH Terms] OR <i>"common cold"</i>[Text Word] OR <i>"flu"</i>[Text Word] OR <i>"laryngotracheobronchit*"</i>[Text Word] OR <i>"rhinitis"</i>[MeSH Terms] OR <i>"rhinit*"</i>[Text Word] OR <i>"tonsillitis"</i>[MeSH Terms] OR <i>"tonsillit*"</i>[Text Word] OR <i>"peritonsillar abscess"</i>[Text Word] OR <i>"croup"</i>[MeSH Terms] OR <i>"croup"</i>[Text Word] OR <i>"epiglottitis"</i>[MeSH Terms] OR <i>"epiglottit*"</i>[Text Word] OR <i>"rhinosinusit*"</i>[Text Word]) AND (<i>"randomized controlled trials as topic"</i>[MeSH Terms] OR <i>"trial"</i>[Text Word] OR <i>"controlled trial"</i>[Text Word] OR <i>"placebo controlled"</i>[Text Word] OR <i>"investigational"</i>[Text Word] OR <i>"randomized"</i>[Text Word])</p>	<p>288</p>

**Appendix B. Web of Science search**

Search	Results
<p>TS=("child" OR "children" OR "infant" OR "Preschooler" OR "baby" OR "Babies" OR "kids" OR "kid" OR "adolescent" OR "teenager" OR "teen")</p> <p>AND</p> <p>TS=("probiotics" OR "probiot" OR "lactobacillus" OR "lactobacill" OR "bifidobacterium" OR "bifido" OR "bifidu" OR "lactococcus" OR "lactococc" OR "saccharomyces" OR "saccharomyc" OR "streptococcus thermophilus" OR "bacillus subtilis" OR "bacill" OR "enterococcus" OR "enterococcus face" OR "active dry probiotic" OR "Probiotics powder" OR "Spray drying")</p> <p>AND</p> <p>TS=("Respiratory Tract Infections" OR "respiratory tract infection" OR "RTI" OR "upper respiratory infection" OR "urti" OR "lower respiratory infection" OR "respiratory infection" OR "bronchitis" OR "bronchit" OR "pneumonia" OR "sinusitis" OR "sinusit" OR "pharyngitis" OR "pharyngit" OR "laryngitis" OR "laryngit" OR "common cold" OR "flu" OR "laryngotracheobronchit" OR "rhinitis" OR "rhinit" OR "tonsillitis" OR "tonsillit" OR "peritonsillar abscess" OR "croup" OR "epiglottitis" OR "epiglottit" OR "rhinosinusit")</p> <p>AND</p> <p>TS=("randomized controlled trials as topic" OR "trial" OR "controlled trial" OR "placebo controlled" OR "investigational" OR "randomized")</p>	<p>319</p>

**Appendix C. Embase search**

No.	Query	Results
#1	'child' OR child.tw,kf. OR children.tw,kf. OR infant.tw,kf. OR preschooler.tw,kf. OR baby.tw,kf. OR babies.tw,kf. OR juvenile.tw,kf. OR adolescent.tw,kf. OR teen.tw,kf. OR teenager.tw,kf.	3341003
#2	probiotics.tw,kf. OR bifido.tw,kf. OR bifidu.tw,kf. OR lactococc.tw,kf. OR saccharomyc.tw,kf. OR (streptococcus AND thermophilus) OR (bacillus AND subtilis) OR bacill OR enterococcus OR (active AND dry AND probiotics) OR (probiotics AND powder) OR (spray AND drying)	185622
#3	'respiratory tract infection' OR rti.tw,kf. OR 'upper respiratory infection' OR urti.tw,kf. OR 'lower respiratory infection' OR 'respiratory infection' OR 'respiratory tract infections' OR bronchitis.tw,kf. OR bronchit.tw,kf. OR pneumonia.tw,kf. OR sinusitis.tw,kf. OR sinusit.tw,kf. OR pharyngitis.tw,kf. OR pharyngit.tw,kf. OR laryngitis.tw,kf. OR laryngit.tw,kf. OR 'common cold' OR flu.tw,kf. OR laryngotracheobronchit.tw,kf. OR rhinitis.tw,kf. OR rhinit.tw,kf. OR tonsillitis.tw,kf. OR tonsillit.tw,kf. OR 'peritonsillar abscess' OR croup.tw,kf. OR epiglottitis.tw,kf. OR epiglottit.tw,kf. OR rhinosinusit.tw,kf.	817559
#4	'randomized controlled trials' OR trial.tw,kf. OR 'controlled trial' OR 'placebo controlled' OR investigational.tw,kf. OR randomized.tw,kf.	3001657
#5	#1 AND #2 AND #3	1049
#6	#1 AND #2 AND #3 AND #4	329

## ***Appendix D. Eligibility Criteria***

### Inclusion Criteria

1. Children and adolescents (28 days-17 years old).
2. Phase I, I/II, and III clinical trials.
3. URIs and LRTI confirmed by patients or Physicians. URIs included cases of pharyngitis, acute rhinitis, acute rhinosinusitis, common cold, and laryngitis. LRTIs included cases of pneumonia, tracheitis, bronchiolitis, and acute bronchitis (Hothan et al, 2022).
4. Use of probiotics as an intervention. Probiotics were defined as “live microorganisms that, when administered in adequate amounts, confer a health benefit on the host” (Hill et al, 2014)
5. Articles written in English, Spanish, Portuguese, German, and French.
6. Only RCTs were included.

## ***Appendix E. Eligibility Criteria***

### Exclusion Criteria

1. Narrative reviews, correspondence letters, case reports, editorials, preclinical studies, observational clinical studies, abstracts, posters, systematic reviews, meta-analysis, expert opinions, and guidelines.
2. Trials being conducted in pregnant women, adults and elderly populations (population not of interest).
3. Other interventions rather than probiotic use (intervention not of interest).
4. No information about population, intervention, comparator and/or intervention.
5. Population with respiratory illness (e.g. cystic fibrosis, asthma, chronic bronchitis, pneumonia, allergic rhinitis, sinusitis, otitis, obstructive pulmonary disease).
6. Population with any severe chronic comorbidity (e.g. IBD, allergies, obesity, genetic diseases, congenital heart defects, diabetes, anemia, malnutrition, neurological or neuropsychomotor development disorders, diseases of premature children, cancers, kidney diseases and rheumatological diseases).
7. Hospitalized children and adolescents.